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Taxonomy & Inventories

New records and an updated checklist of the herpetofauna from Tay Yen Tu Nature Reserve, north-eastern Vietnam

Anh Mai Luong[‡], Tien Quang Phan[‡], Truong Quang Nguyen[‡,§], Tung Thanh Tran[|], Hien Thu Thi Ngo[¶], Mona van Schingen-Khan[#], Thomas Ziegler[¤,«], Cuong The Pham[‡,§]

‡ Institute of Biology, Vietnam Academy of Science and Technology, Hanoi, Vietnam
§ Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam
| Vinh Phuc College, Vinh Phuc, Vietnam
¶ Department of Agriculture and Environment, Bac Giang, Vietnam
# Federal Agency for Nature Conservation, CITES Scientific Authority, Bonn, Germany
¤ Cologne Zoo, Cologne, Germany
« Institute of Zoology, University of Cologne, Cologne, Germany

Corresponding author: Tung Thanh Tran (tungbiology3@gmail.com), Cuong The Pham (cuongiebr@gmail.com)

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Abstract

Background

The Tay Yen Tu Nature Reserve is situated on the western side of the Yen Tu Mountain Range in Bac Giang Province, northern Vietnam. Since its establishment in 2002, several studies on the herpetofauna of this protected area have been carried out. For example, Nguyen et al. reported 25 species of snakes in 2002 and most recently, Hecht et al. reported 36 species of amphibians and 40 species of reptiles in the Nature Reserve in 2013. Remarkably, two new species of amphibians and two new species of reptiles have been discovered from Tay Yen Tu Nature Reserve since 2005.

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New information

As a result of our fieldwork in Tay Yen Tu Nature Reserve between 2015 and 2025, we recorded four species of amphibians and three species of reptiles for the first time from Bac Giang Province, comprising two species of *Leptobrachella*, one species of *Kaloula*, one species of *Hylarana*, one species of *Takydromus*, one species of *Sinomicrurus* and one species of *Xenopeltis*. We herein provide morphological data as well as ecological notes of the aforementioned species. In addition, we provide an updated list of 44 amphibian species and 49 reptile species recorded from Tay Yen Tu Nature Reserve.

Keywords

amphibians, Bac Giang Province, distribution, morphology, reptiles, taxonomy.

Introduction

The Tay Yen Tu Nature Reserve is located in Bac Giang Province, covering an area of 16,466 hectares of evergreen broad-leaved tropical lowland forest (Tordoff et al. 2004). In terms of herpetofaunal diversity, Nguyen et al. (2002) initially reported 25 species of snakes, while Hecht et al. (2013) recorded 76 species of amphibians and reptiles from Tay Yen Tu Nature Reserve. The Nature Reserve is also known as the type locality of four newly-discovered species, including *Tylototriton vietnamensis* (Böhme et al. 2005), *Odorrana yentuensis* (Tran et al. 2008), *Opisthotropis voquyi* (Ziegler et al. 2018) and *Achalinus emilyae* (Ziegler et al. 2019). In addition, three new country records of amphibians and reptiles were reported from the site, namely *Liuixalus feii* Yang, Rao & Wang, 2015, *Odorrana fengkaiensis* Wang, Lau, Yang, Chen, Liu, Pang & Liu, 2015 and *Occidozyga shiwandashanensis* Chen, Peng, Liu, Huang, Liao & Mo, 2022 (Pham et al. 2018, Pham et al. 2020, Tran et al. 2023). Tay Yen Tu Nature Reserve is further home to the species that are on the brink of extinction, such as the Vulnerable *Tylototriton vietnamensis* or the Endangered *Shinisaurus crocodilurus* (van Schingen et al. 2016, Bernardes et al. 2017). However, natural habitats in the Nature Reserve are currently under threat, for example, by mining activities.

As a result of our fieldwork in Tay Yen Tu Nature Reserve between 2015 and 2025, we herein report seven new records of amphibians and reptiles for Tay Yen Tu Nature Reserve, as well as for Bac Giang Province.

Materials and methods

Sampling

Field surveys were conducted by Pham T.C, An H.T., van Schingen-Khan M. and Barthel L. in May 2015; Pham C.T., Nguyen T.V., Phan T.Q. and Vu Q.M. in November 2024; and

by Luong A.M., Pham C.T. and Phan T.Q. in March 2025 in Tay Yen Tu Nature Reserve (NR), Bac Giang Province. The coordinates (WGS 84) and elevations were determined by using a Garmin GPS 60CX device.

Field excursions and collection of specimens took place after sunset between 19:00 h and 23:00 h mainly along streams and ponds throughout the reserves. After taking photographs in life, specimens were anaesthetised and euthanised in a closed vessel with a piece of cotton wool containing ethyl acetate (Simmons 2002), fixed in 80% ethanol for five hours and then later transferred to 70% ethanol for permanent storage. Specimens referred to in this paper are deposited in the collection of the Institute of Biology (IB) (formerly known as the Institute of Ecology and Biological Resources, IEBR), Hanoi, Vietnam.

Morphological examination

For amphibians, measurements were taken on preserved specimens with a set of digital calipers for amphibian specimens to the nearest 0.1 mm. The following abbreviations were used: SVL = snout-vent length (from tip of snout to cloaca), HL = head length (measured as a parallel line to the vertebral column from posterior margin of mandible to tip of snout), HW = maximum head width (across angles of jaws), RL = rostral length (from anterior corner of orbit to tip of snout), NS = distance from nostril to the tip of snout, EN = distance from anterior corner of orbit to the nostril, TD = tympanum diameter, UAL = upper arm length (from axilla to elbow), FAL = forearm length (from elbow to tip of third finger), FL1–4 = Finger length I–IV, FeL = femur length (from vent to knee), TbL= tibia length (from knee to tarsus), TbW = maximum tibia width, FoL = foot length (from tarsus to the tip of fourth toe), TL1–5 = toe length I–V. For the webbing formula, we followed Glaw and Vences (2007). Sex was determined by the presence of nuptial pads and based on gonadal inspection.

For lizards and snakes, measurements were taken on preserved specimens with a measuring tape. Scalation of *Takydromus* was counted according to Wang et al. (2019). The number of ventral scales of snakes was counted according to Dowling (1951). The dorsal scale rows were given at one head length behind head, at mid-body and at one head length before vent, respectively. Scalation was studied by using a stereomicroscope (Leica M80). Bilateral scale counts were given as left/right. Identification of sex was made by inspection of presence of hemipenes.

Taxon treatments

Leptobrachella bourreti (Dubois, 1983)

Materials

a. scientificName: *Leptobrachella bourreti*; scientificNameID: *Leptobrachella bourreti*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *bourreti*; scientificNameAuthorship: Dubois, 1983; country: Vietnam; countryCode: VN;

stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 392 m; verbatimLatitude: 21°09.756'N; verbatimLongitude: 106°49.302'E; verbatimCoordinateSystem: WGS84; eventDate: 18 May 2015; eventRemarks: collected by Pham T.C, van Schingen-Khan M., and Barthel L.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6374; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: 7F4C9BA0-8609-531D-B1AC-7E14722D3659

b. scientificName: *Leptobrachella bourreti*; scientificNameID: *Leptobrachella bourreti*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *bourreti*; scientificNameAuthorship: Dubois, 1983; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 476 m; verbatimLatitude: 21°09.835'N; verbatimLongitude: 106°48.638'E; verbatimCoordinateSystem: WGS84; eventDate: 20 November 2024; eventRemarks: collected by Pham C.T., Nguyen T.V., Phan T.Q., and Vu Q.M; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6375; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: A5624967-9981-529E-931B-56F7B5FFCC91

c. scientificName: *Leptobrachella bourreti*; scientificNameID: *Leptobrachella bourreti*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *bourreti*; scientificNameAuthorship: Dubois, 1983; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 476 m; verbatimLatitude: 21°09.835'N; verbatimLongitude: 106°48.638"E; verbatimCoordinateSystem: WGS84; eventDate: 20 November 2024; eventRemarks: collected by Pham C.T., Nguyen T.V., Phan T.Q., and Vu Q.M; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: IB A.6376; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: C326FC76-7C0B-5CF9-86BD-397DF4AF40C6

d. scientificName: *Leptobrachella bourreti*; scientificNameID: *Leptobrachella bourreti*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *bourreti*; scientificNameAuthorship: Dubois, 1983; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 347 m; verbatimLatitude: 21°09.837'N; verbatimLongitude: 106°49.314'E; verbatimCoordinateSystem: WGS84; eventDate: 25 March 2025; eventRemarks: collected by Luong A.M., Pham C.T., and Phan T.Q.; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: IB A.6377; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: BD1B4CEE-3741-515A-8681-BACE9AD73334

Description

Morphological characters of the specimens from Tay Yen Tu NR agreed well with descriptions of Dubois (1983) and Ohler et al. (2011). Size small (SVL 25.7–26.2 mm in two males and SVL 32.0–33.6 mm in two females); head longer than wide (HL 10.4–10.6 mm, HW 8.9–9.2 mm in males and HL 12.5–12.9 mm, HW 11.1–11.6 in females); snout not protruding, longer than eye diameter (RL 4.0 mm, ED 3.4–3.7 mm in males and RL 3.7–5.1 mm, ED 3.8–4.6 mm in females); nostrils round, closer to the tip of snout than to eye (NS 1.6–1.9 mm, EN 2.3–2.5 mm in males and NS 1.6–1.9 mm, EN 2.9–3.2 mm in females); canthus rostralis round, loreal region slightly concave, obtuse; tympanum distinct; vomerine teeth absent; tongue notched

posteriorly. Fore-limbs: Forearm slender, upper arm length (UAL 6.0–6.4 mm in males and UAL 7.2–8.2 mm in females), forearm length (FAL 13.6 mm in males and FAL 15.9–17.3 mm in females); relative finger lengths I < II < IV < III, tips of fingers enlarged; fingers free of webbing. Hind-limbs: Thigh slender (FeL 12.7–13.6 mm in males; FeL 14.2–16.1 mm in females); relative toe lengths I < II < V < III < IV; tips of toes not enlarged; webbing rudimentary; tibio-tarsal articulation reaching to the eye when leg adpressed along body. Skin: Dorsum smooth with some small flattened pustules; supratympanic fold distinct; throat, chest, belly and underside of limbs smooth. Colouration in life: Dorsal surface of head and body grey with dark marking; flank grey with black spots; dorsal surface of limbs grey with dark transverse bars; belly cream; throat and chest mottled with dark brown (Fig. 1).

Figure 1. doi

Leptobrachella bourreti (male, IB A.6373).

Distribution

In Vietnam, this species has been recorded from Lao Cai, Lai Chau and Ha Giang Provinces (Nguyen et al. 2009, Frost 2025). Elsewhere, this species has been recorded from China and Thailand (Frost 2025).

Ecology

Specimens were found between 19:30 h and 20:30 h, on the ground or rocks in streams. The surrounding habitat was mixed secondary forest of medium and small

hardwoods with bamboo and shrubs. Air temperatures at the sites ranged from 20.1°C to 25.7°C and relative humidity ranged 83% to 95%.

Leptobrachella sungi (Lathrop, Murphy, Orlov & Ho, 1998)

Materials

a. scientificName: *Leptobrachella sungi*; scientificNameID: *Leptobrachella sungi*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *sungi*; scientificNameAuthorship: Lathrop, Murphy, Orlov, and Ho, 1998; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 361 m; verbatimLatitude: 21°09.851'N; verbatimLongitude: 106°49.301'E; verbatimCoordinateSystem: WGS84; eventDate: 16 May 2015; eventRemarks: collected by Pham C.T., van Schingen-Khan M., and Barthel L; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6378; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: DFF736DC-21D7-5BF2-B90E-5DC08EC34E0C

b. scientificName: *Leptobrachella sungi*; scientificNameID: *Leptobrachella sungi*; class: Amphibia; order: Anura; family: Megophryidae; genus: *Leptobrachella*; specificEpithet: *sungi*; scientificNameAuthorship: Lathrop, Murphy, Orlov, and Ho, 1998; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 400 m; verbatimLatitude: 21°09.662'N; verbatimLongitude: 106°49.236'E; verbatimCoordinateSystem: WGS84; eventDate: 16 May 2015; eventRemarks: collected by Pham C.T., van Schingen-Khan M., and Barthel L.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6379; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: 4EA7B48E-42D8-5A18-9384-E44BD15ED7D0

Description

Morphological characters of the specimens from Tay Yen Tu NR agreed well with descriptions of Lathrop et al. (1998) and Luong et al. (2019). Size medium (SVL 50.7–53.8 mm, n = 2); head longer than wide (HL 23.4–24.4 mm, HW 19.8–21.7 mm); snout round, longer than eye diameter (RL 8.0–9.0 mm, ED 6.8–6.9
mm); nostrils round, closer to the tip of snout than to eye (NS 3.0–4.3 mm, EN 5.1–5.8 mm); canthus rostralis distinct, loreal region concave; tympanum distinct; vomerine teeth absent; tongue notched posteriorly. Fore-limbs: Forearm slender, upper arm length (UAL 11.7–11.9 mm), forearm length (FAL 27.1–30.6 mm); relative finger lengths I < II < IV < III, tips of fingers not enlarged; fingers free of webbing. Hind-limbs: Thigh slender (FeL 22.0–25.8 mm); relative toe lengths I < II < V < III < IV; tips of toes not enlarged; webbing rudimentary. Skin: Dorsal surface of head and body, upper part of flanks with dispersed tubercles; upper eyelid granular; dorsolateral fold absent; ventral surface smooth. Colouration in life: Dorsal surface of head and body brown-copper with a dark marking between eyes; canthus and supratympanic fold brown; upper lip with brown bars; flanks light brown with dark points; dorsal surface of limbs with dark brown transverse bars; ventral surface opaque white (Fig. 2).

Figure 2. doi

Leptobrachella sungi (female, IB A.6378).

Distribution

In Vietnam, this species has been recorded from Vinh Phuc, Yen Bai, Lao Cai, Dien Bien, Phu Tho, Son La and Tuyen Quang Provinces (Nguyen et al. 2009, Luong et al. 2019, Frost 2025). Elsewhere, this species has been recorded from China (Frost 2025).

Ecology

Specimens were found between 19:30 h and 21:30 h, on the banks of rocky streams. The surrounding habitat was mixed secondary forest of medium and small hardwoods with bamboo and shrubs. Air temperatures at the sites ranged from 25.5°C to 32.8°C and relative humidity ranged from 63% to 82%.

Kaloula pulchra Gray, 1831

Material

a. scientificName: *Kaloula pulchra*; scientificNameID: *Kaloula pulchra*; class: Amphibia; order: Anura; family: Microhylidae; genus: *Kaloula*; specificEpithet: *pulchra*; scientificNameAuthorship: Gray, 1831; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 250 m; verbatimLatitude: 21°11.057'N; verbatimLongitude: 106°42.930'E; verbatimCoordinateSystem: WGS84; eventDate: 4 July 2015; eventRemarks: collected by

Pham T.C, van Schingen-Khan M., and Barthel L.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6380; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: E5F34920-8355-5AD7-AADB-3E4DB3973D69

Description

Morphological characters of the specimen from Tay Yen Tu NR agreed well with descriptions of Bourret (1942) and Taylor (1962). Size medium (SVL 60.4 mm); head shorter than wide (HL 17.4 mm, HW 20.6 mm); snout round, longer than eye diameter (RL 6.2 mm, ED 5.9 mm); nostrils round, closer to the tip of snout than to eye (NS 2.7 mm, EN 3.6 mm); canthus rostralis scarcely indicated, loreal region sloping obliquely, not concave; tympanum indistinct; vomerine teeth present; tongue notched posteriorly. Fore-limbs: Arms short; upper arm length (UAL 9.1 mm), forearm length (FAL 33.8 mm); relative finger lengths I < II < IV < III, tips of fingers enlarged; fingers free of webbing. Hind-limbs: Thigh short (FeL 24.9 mm); tibia three times longer than wide (TbL 22.5 mm, TbW 7.8 mm); relative toe lengths I < II < V < III < IV; tips of toes not enlarged; webbing rudimentary. Skin: Dorsal surface of head and body finely granular with some scattered pustular tubercles, ventral surface granulate. Colouration in life: Dorsal surface of head and body dark brown; an irregularly-edged light brown diagonal stripe from eye to groin; flanks dark brown; Dorsal surface of limbs with some light brown pattern; ventral surface light grey with grey markings (Fig. 3).

Figure 3. doi

Kaloula pulchra (female, IB A.6380).

Distribution

In Vietnam, this species has been recorded from Bac Kan and Thai Nguyen Provinces in the north southwards to Tay Ninh and Ca Mau Provinces (Nguyen et al. 2009, Frost 2025). Elsewhere, this species has been recorded from Bangladesh, Cambodia, China, India, Indonesia, Laos, Myanmar, the Philippines, Singapore, Taiwan and Thailand (Frost 2025).

Ecology

The specimen was found at 21:00 h, on the forest path. The surrounding habitat was mixed secondary evergreen forest of medium and small hardwoods with shrubs and arrowroot. Air temperatures at the sites ranged from 26.3°C to 33.8°C and relative humidity ranged from 65% to 84%.

Hylarana macrodactyla Günther, 1858

Material

a. scientificName: *Hylarana macrodactyla*; scientificNameID: *Hylarana macrodactyla*; class: Amphibia; order: Anura; family: Ranidae; genus: *Hylarana*; specificEpithet: *macrodactyla*; scientificNameAuthorship: Günther, 1858; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 330 m; verbatimLatitude: 21°10.131'N; verbatimLongitude: 106°48.727'E; verbatimCoordinateSystem: WGS84; eventDate: 5 July 2015; eventRemarks: collected by Pham C.T.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB A.6381; language: en; collectionCode: Amphibia; basisOfRecord: PreservedSpecimen; occurrenceID: 128522C6-B4EE-5887-8476-46FE162BCE48

Description

Morphological characters of the specimen from Tay Yen Tu NR agreed well with descriptions of Bourret (1942) and Taylor (1962). Size medium (SVL 41.3 mm); head longer than wide (HL 15.8 mm, HW 9.9 mm); snout round, longer than eye diameter (RL 7.2 mm, ED 4.4 mm); nostrils round, closer to the tip of snout than to eye (NS 2.7 mm, EN 4.4 mm); canthus rostralis round, loreal region oblique, concave; tympanum distinct; vomerine teeth present; tongue notched posteriorly. Fore-limbs: Arms rather long, upper arm length (UAL 12.4 mm), hand length (FAL 35.4 mm); relative finger lengths I < II < IV < III, tips of fingers swollen; fingers free of webbing. Hind-limbs: Thigh slender (FeL 21.5 mm); tibia three times longer than wide (TbL 25.3 mm); relative toe lengths I < II < III < V < IV; tips of toes enlarged; toes about one-half webbed. Skin: Dorsal surface of head and body smooth, flank with few flat warts; median ventral and posterior surface of thigh with regular granulation or areolation; dorsolateral fold glandular. Colouration in life: Dorsal surface of head and body light brown with a narrow median light cream stripe, a cream stripe extending from eye to groin, along dorsolateral fold; flank with small brownish spots, upper limbs light brown with transverse cream bars; ventral surface cream (Fig. 4).

Figure 4. doi

Hylarana macrodactyla (female, IB A.6381).

Distribution

In Vietnam, this species has been recorded from Ha Giang and Yen Bai Provinces in the north southwards to Ho Chi Minh and Ca Mau Provinces (Nguyen et al. 2009, Frost 2025). Elsewhere, this species has been recorded from Cambodia, China, Laos, Malaysia, Myanmar and Thailand (Nguyen et al. 2009, Frost 2025).

Ecology

The specimen was found at 20:30 h in a small stream. The surrounding habitat was mixed secondary evergreen forest of medium and small hardwoods with shrubs and arrowroot. Air temperatures at the sites ranged from 27.5°C to 34.1°C and relative humidity ranged from 68% to 82%.

Takydromus sexlineatus Daudin, 1802

Material

a. scientificName: *Takydromus sexlineatus*; scientificNameID: *Takydromus sexlineatus*; class: Reptile; order: Squamata; family: Lacertidae; genus: *Takydromus*; specificEpithet: *sexlineatus*; scientificNameAuthorship: Daudin, 1802; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 265 m; verbatimLatitude: 21°10.940'N; verbatimLongitude: 106°42.725'E; verbatimCoordinateSystem: WGS84; eventDate: 2 July 2015; eventRemarks: collected by

Pham C.T.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB 3664; language: en; collectionCode: Reptile; basisOfRecord: PreservedSpecimen; occurrenceID: 5700017B-A9B8-5A6C-BB46-5D3C4C4AC4F0

Description

Morphological characters of the specimen from Tay Yen Tu NR agreed well with descriptions of Taylor (1963), Ziegler et al. (1999) and Nguyen et al. (2018). Body slender with an extra-long tail (SVL 52.2 mm, TaL 38.5 mm, tail loss); head longer than wide; horizontal diameter of orbit longer than distance from anterior corner of orbit to nostril; supralabials 7/7; infralabials 5/5; tympanum exposed, horizontal diameter (1.8 mm) less than that of the orbit; chin shields in three pairs; dorsal scales enlarged and keeled in six rows at mid-body, without a non-contiguous vertebral row of smaller scales; ventral scales widened, in six rows at mid-body; lateral scales in 12 rows at mid-body on each sides, smaller in size than dorsal and ventral scales; femoral pores four on each side; subdigital lamellae broadened. Colouration in life: Dorsal surface of head and body brown with some small black spots; upper part of flanks black with numerous yellowish spots, lower part of flanks light brown-green; dorsal surface of limbs and tail base with black spots; ventral surface whitish-cream (Fig. 5).

Figure 5. doi

Takydromus sexlineatus (female, IB 3664).

Distribution

In Vietnam, this species has been recorded from Lao Cai and Ha Giang Provinces in the north southwards to Tay Ninh and Binh Duong Provinces (Nguyen et al. 2009,

Uetz et al. 2025). Elsewhere, this species has been recorded from Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar and Thailand (Nguyen et al. 2009, Uetz et al. 2025).

Ecology

The specimen was found at 19:30 h, on the forest path. The surrounding habitat was mixed secondary evergreen forest of medium and small hardwoods with bamboo, shrubs and arrowroot. Air temperatures at the sites ranged from 26.3°C to 33.8°C and relative humidity ranged from 65% to 84%.

Sinomicrurus macclellandi (Reinhardt, 1844)

Material

a. scientificName: *Sinomicrurus macclellandi*; scientificNameID: *Sinomicrurus macclellandi*; class: Reptile; order: Squamata; family: Elapidae; genus: *Sinomicrurus*; specificEpithet: *macclellandi*; scientificNameAuthorship: Reinhardt, 1844; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 288 m; verbatimLatitude: 21°10.507'N; verbatimLongitude: 105°43.337'E; verbatimCoordinateSystem: WGS84; eventDate: 2 July 2015; eventRemarks: collected by Pham C.T.; individualCount: 1; sex: female; lifeStage: adult; catalogNumber: IB R.6384; language: en; collectionCode: Reptile; basisOfRecord: PreservedSpecimen; occurrenceID: B856FE9B-795D-5DAE-B583-12491C9939EF

Description

Morphological characters of the specimen from Tay Yen Tu NR agreed well with descriptions of Pope (1935), Taylor (1965) and Luu et al. (2020). SVL 472.5 mm, TaL 57.61 mm; head not distinct from neck; eye small, pupil round; internasals divided; rostral as wide as high, clearly visible from above; frontal longer than wide, but shorter than parietals; loreal absent; preocular 1/1; postoculars 2/2, bordering anterior temporal on each side; anterior temporal 1/1, posterior temporals 1+2; supralabials 7/7, third to fourth touching the eye, sixth largest; infralabials 6/6, first to fourth bordering chin shields; chin shields in two pairs, in contact medially; dorsal scale rows 13–13–13, smooth; ventrals 206; cloacal shield undivided; subcaudals 32, divided; tail with pointed tip. Colouration in life: Dorsal reddish brown, with 28 black cross-bands and three on tail; head black with a wide white cross-band behind eyes; ventral surface cream with black bands and black squarish marks (Fig. 6).

Distribution

In Vietnam, this species has been recorded from Lao Cai and Cao Bang Provinces in the north southwards to Lam Dong and Dong Nai Provinces (Nguyen et al. 2009, Uetz et al. 2025). Elsewhere, this species has been recorded from Bangladesh, Bhutan, China, India, Japan, Laos, Myanmar, Nepal, Taiwan and Thailand (Nguyen et al. 2009, Uetz et al. 2025).

Ecology

The specimen was found at 21:00 h, on the bank of a rocky stream. The surrounding habitat was mixed secondary evergreen forest of medium and small hardwoods with shrubs and arrowroot. Air temperatures at the sites ranged from 25.3°C to 33.8°C and relative humidity ranged from 65% to 84%.

Figure 6. doi

Sinomicrurus macclellandi (female, IB A.6384).

Xenopeltis hainanensis Hu & Zhao, 1972

Material

a. scientificName: *Xenopeltis hainanensis*; scientificNameID: *Xenopeltis hainanensis*; class: Reptile; order: Squamata; family: Xenopeltidae; genus: *Xenopeltis*; specificEpithet: *hainanensis*; scientificNameAuthorship: Hu & Zhao, 1972; country: Vietnam; countryCode: VN; stateProvince: Bac Giang; locality: Tay Yen Tu NR; verbatimElevation: 360 m; verbatimLatitude: 21°10.575'N; verbatimLongitude: 106°42.623'E; verbatimCoordinateSystem: WGS84; eventDate: 1 July 2015; eventRemarks: collected by Pham C.T.; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: IB R.6385; language: en; collectionCode: Reptile; basisOfRecord: PreservedSpecimen; occurrenceID: 7C03A3F4-2C8D-598E-854E-9136EA4B8032

Description

Morphological characters of the specimen from Tay Yen Tu NR agreed well with descriptions of Kizirian et al. (2003) and Orlov et al. (2022). SVL 586.7 mm, TaL 46.1

mm; head not distinct from neck; eye small, pupil round; internasals divided; rostral as wide as high, clearly visible from above; frontal longer than wide, but shorter than parietals; loreal absent; preocular 1/1; postoculars 2/2, bodering anterior temporal on each side; anterior temporal 1/1, posterior temporals 2; supralabials 7/7, third and fourth touching the eye, sixth largest; infralabials 7/7, first to third bordering chin shields; chin shields in two pairs, in contact medially; dorsal scale rows 15–15–15, smooth; ventrals 163; cloacal shield divided; subcaudals 19, divided; tail with pointed tip. Colouration in life: Dorsal uniform stone grey; upper lip, throat and ventral surface opaque white (Fig. 7).

Figure 7. doi

Xenopeltis hainanensis (male, IB A.6385).

Distribution

In Vietnam, this species has been recorded from Yen Bai, Cao Bang, Lang Son, Vinh Phuc, Hai Duong, Ha Tinh and Quang Binh Provinces (Nguyen et al. 2009, Uetz et al. 2025). Elsewhere, this species has been recorded from China (Nguyen et al. 2009, Uetz et al. 2025).

Ecology

The specimen was found at 22:00 h, on the bank of a rocky stream. The surrounding habitat was mixed secondary evergreen forest of medium and small hardwoods with bamboo, shrubs and arrowroot. Air temperatures at the sites ranged from 25.2°C to 33.6°C and relative humidity ranged from 67% to 85%.

An updated checklist of the herpetofauna of Tay Yen Tu Nature Reserve, Bac Giang Province

Class Amphibia

Order Anura

Family Bufonidae

Duttaphrynus melanostictus (Schneider, 1799)

Distribution: Vietnam, Sri Lanka, India, Nepal, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, the Philippines.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Ingerophrynus galeatus (Günther, 1864)

Distribution: Vietnam, China, Laos, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Megophryidae

Leptobrachella bourreti (Dubois, 1983)

Distribution: Vietnam, Laos, Thailand.

Notes: First record for Bac Giang Province.

Leptobrachella nyx (Ohler, Wollenberg, Grosjean, Hendrix, Vences, Ziegler & Dubois, 2011)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Chen et al. 2018).

Leptobrachella sungi (Lathrop, Murphy, Orlov & Ho, 1998)

Distribution: Vietnam, China.

Notes: First record for Bac Giang Province.

Leptobrachium chapaense (Bourret, 1937)

Distribution: Vietnam, China, Myanmar, Laos, Thailand.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Ophryophryne microstoma Boulenger, 1903

Distribution: Vietnam, China, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Xenophrys maosonensis (Bourret, 1937)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Mahony et al. 2018).

Family Microhylidae

Kalophrynus interlineatus (Blyth, 1855)

Distribution: Vietnam, India, China, Myanmar, Laos, Thailand, Cambodia, Indonesia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Kaloula pulchra Gray, 1831

Distribution: Vietnam, India, Bangladesh, China, Myanmar, Laos, Thailand, Cambodia, Indonesia.

Notes: First record for Bac Giang Province.

Microhyla butleri Boulenger, 1900

Distribution: Vietnam, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Microhyla heymonsi Vogt, 1911

Distribution: Vietnam, India, China, Laos, Thailand, Cambodia, Malaysia, Indonesia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Microhyla pulchra (Hallowell, 1861)

Distribution: Vietnam, India, China, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Dicroglossidae

Fejervarya limnocharis (Gravenhorst, 1829)

Distribution: Vietnam, Afghanistan, Pakistan, India, Nepal, Sri Lanka, Bangladesh, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, the Philippines, Japan.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Nguyen et al. 2009).

Hoplobatrachus chinensis (Osbeck, 1765)

Distribution: Vietnam, Myanmar, China, Cambodia, Laos, Thailand, Malaysia, Borneo, the Philippines.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Limnonectes bannaensis Ye, Fei, Xie & Jiang, 2007

Distribution: China, Thailand, Myanmar, Laos, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Limnonectes quangninhensis Pham, Le, Nguyen, Ziegler, Wu & Nguyen, 2017

Distribution: Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Pham et al. 2019).

Quasipaa acanthophora Dubois & Ohler, 2009

Distribution: Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Occidozyga martensii (Peters, 1867)

Distribution: Vietnam, China, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Occidozyga shiwandashanensis Chen, Peng, Liu, Huang, Liao & Mo, 2022

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Tran et al. 2023).

Family Ranidae

Amolops shihaitaoi Wang, Li, Du, Hou & Yu, 2022

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Wang et al. 2022).

Nidirana chapaensis (Bourret, 1937)

Distribution: Vietnam, Laos, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Hylarana guentheri (Boulenger, 1882)

Distribution: Vietnam, China, Myanmar, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Hylarana maosonensis Bourret, 1937

Distribution: Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Hylarana macrodactyla (Günther, 1858)

Distribution: Vietnam, China, Myanmar, Laos, Thailand, Cambodia, Malaysia.

Notes: First record for Bac Giang Province.

Hylarana annamitica (Sheridan & Stuart, 2018)

Distribution: Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Sheridan and Stuart 2018).

Hylarana taipehensis (Van Denburgh, 1909)

Distribution: Vietnam, India, Nepal, Bangladesh, China, Myanmar, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Odorrana fengkaiensis Wang, Lau, Yang, Chen, Liu, Pang & Liu, 2015

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Pham et al. 2020).

Odorrana graminea (Boulenger, 1900)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Odorrana trankieni (Orlov, Le & Ho 2003)

Distribution: China, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Pham et al. 2020).

Odorrana yentuensis Tran, Orlov & Nguyen, 2008

Distribution: China, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Rana johnsi Smith, 1921

Distribution: Vietnam, China, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Rhacophoridae

Feihyla vittata (Boulenger, 1887)

Distribution: Vietnam, India, China, Myanmar, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Kurixalus bisacculus (Taylor, 1962)

Distribution: Thailand, Cambodia, Laos, Myanmar, China, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Liuixalus feii Yang, Rao & Wang, 2015

Distribution: China, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Pham et al. 2018).

Polypedates megacephalus Hallowell, 1861

Distribution: Vietnam, India, China, Myanmar, Taiwan, Laos, Thailand, Japan.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Polypedates mutus (Smith, 1940)

Distribution: Vietnam, China, Myanmar, Laos, Thailand.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Rhacophorus napoensis Li, Liu, Yu & Sun, 2022

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013, Li et al. 2022 and Nguyen et al. 2024).

Theloderma albopunctatum (Liu & Hu, 1962)

Distribution: Vietnam, China, India, Myanmar, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Poyarkov et al. 2015).

Theloderma corticale (Boulenger, 1903)

Distribution: Vietnam, China, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Theloderma lateriticum Bain, Nguyen & Doan, 2009

Distribution: Vietnam, China, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Zhangixalus pachyproctus Yu, Hui, Hou, Wu, Rao & Yang, 2019

Distribution: Vietnam, China, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Yu et al. 2019).

Order Caudata

Family Salamandridae

Tylototriton vietnamensis Böhme, Schöttler, Nguyen & Köhler, 2005

Distribution: Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Order Gymnophiona

Family Ichthyophiidae

Ichthyophis kohtaoensis Taylor, 1960

Distribution: Vietnam, China, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Nishikawa et al. 2021).

Class Reptilia

Order Squamata

Family Agamidae

Acanthosaura lepidogaster (Cuvier, 1829)

Distribution: Vietnam, China, Myanmar, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Draco maculatus (Gray, 1845)

Distribution: Vietnam, India, China, Myanmar, Laos, Thailand, Cambodia, Malaysia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Physignathus cocincinus (Cuvier, 1829)

Distribution: Vietnam, China, Myanmar, Laos, Thailand, Cambodia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Gekkonidae

Gekko palmatus Boulenger, 1907

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Hemidactylus frenatus Schlegel, 1836

Distribution: Vietnam, worldwide in tropical and subtropical regions.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Eublepharidae

Goniurosaurus lichtenfelderi Mocquard, 1897

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Scincidae

Ateuchosaurus chinensis Gray, 1845

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Eutropis longicaudatus (Hallowell, 1857)

Distribution: Vietnam, China, Laos, Thailand, Cambodia, Malaysia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Eutropis multifasciatus (Kuhl, 1820)

Distribution: Vietnam, India, China, Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia, Philippines, New Guinea.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Sphenomorphus cryptotis Darevsky, Orlov & Ho, 2004

Distribution: Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Sphenomorphus indicus (Gray, 1853)

Distribution: Vietnam, India, Bhutan, China, including Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Sphenomorphus incognitus (Thompson, 1912)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Nguyen et al. 2012).

Sphenomorphus tonkinensis Nguyen, Schmitz, Nguyen, Orlov, Böhme & Ziegler, 2011

Distribution: Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Plestiodon tamdaoensis (Bourret, 1937)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Tropidophorus hainanus Smith, 1923

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Tropidophorus sinicus Boettger, 1886

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Shinisauridae

Shinisaurus crocodilurus Ahl, 1930

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Lacertidae

Takydromus kuehnei Van Denburgh, 1909

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Takydromus sexlineatus Daudin, 1802

Distribution: Vietnam, India, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia.

Notes: First record for Bac Giang Province.

Family Colubridae

Ahaetulla prasina (Boie, 1827)

Distribution: India, Bhutan, Myanmar, Cambodia, Laos, Vietnam, Malaysia, China, Indonesia, the Philippines.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Amphiesmoides ornaticeps (Werner, 1924)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Boiga kraepelini Stejneger, 1902

Distribution: China, Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Ziegler et al. 2010).

Calamaria pavimentata Duméril, Bibron & Duméril, 1854

Distribution: India, Malaysia, Thailand, Laos, Vietnam, Cambodia, Myanmar, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Calamaria septentrionalis Boulenger, 1890

Distribution: China, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Coelognathus radiatus (Boie, 1827)

Distribution: Indonesia, Malaysia, Borneo, Burma, Thailand, Laos, Cambodia, Vietnam, India, Banglagesh, Nepal, Bhutan, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Nguyen et al. 2009).

Gonyosoma coeruleum Liu, Hou, Lwin, Wang & Rao, 2021

Distribution: China, Myanmar, Malaysia, Thailand, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013, Liu et al. 2021).

Gonyosoma boulengeri (Mocquard, 1897)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Hypsiscopus murphyi Bernstein, Voris, Stuart, Phimmachak, Seateun, Sivongxay, Neang, Karns, Andrews, Osterhage, Phipps & Ruane, 2022

Distribution: Cambodia, China, Laos, Thailand, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Nguyen et al. 2009, Murphy and Voris 2014 and Bernstein et al. 2022).

Lycodon futsingensis (Pope, 1928)

Distribution: China, Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Lycodon flavozonatus Pope (1928)

Distribution: Vietnam, Laos, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Li et al. 2025).

Oligodon chinensis (Günther, 1888)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Opisthotropis lateralis Boulenger, 1903

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Opisthotropis voquyi Ziegler, David, Ziegler, Pham, Nguyen & Le, 2018

Distribution: Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Ziegler et al. 2018).

Ptyas multicincta (Roux, 1907)

Distribution: China, Laos, Vietnam, Thailand.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Figueroa et al. 2016).

Rhabdophis helleri (Schmidt, 1925)

Distribution: Indonesia, Malaysia, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Liu et al. 2020).

Sibynophis chinensis (Günther, 1889)

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Trimerodytes aequifasciatus (Barbour, 1908)

Distribution: China, Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Ren et al. 2019).

Trimerodytes percarinatus (Boulenger, 1899)

Distribution: Myanmar, Thailand, Vietnam, India, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013 and Ren et al. 2019).

Family Psammodynastidae

Psammodynastes pulverulentus (Boie, 1827)

Distribution: Bangladesh, Burma, Cambodia, China, India, Bhutan, Indonesia, Laos, the Philippines, Thailand, Vietnam, Malaysia.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Pareidae

Pareas hamptoni (Boulenger, 1905)

Distribution: Myanmar, Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Pareas margaritophorus (Jan, 1866)

Distribution: Malaysia, Indonesia, Thailand, Laos, Cambodia, Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Elapidae

Bungarus fasciatus (Schneider, 1801)

Distribution: Bangladesh, Burma, Cambodia, China, India, Bhutan, Nepal, Indonesia, Laos, Malaysia, Singapore, Thailand, Vietnam.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Sinomicrurus macclellandi (Reinhardt, 1844)

Distribution: India, Nepal, Bangladesh, Bhutan, Thailand, Vietnam, China, India, Nepal.

Notes: First record for Bac Giang Province.

Family Viperidae

Trimeresurus stejnegeri Schmint, 1925

Distribution: China, India, Myanmar, Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013).

Family Typhlopidae

Indotyphlops braminus (Daudin, 1803)

Distribution: Vietnam, Zanzibar, Tanzania, Mozambique, Somalia, Cameroon, Benin, Togo, Ivory Coast, Senegal, Gabon, Madagascar, Comores, Nossi Be, Mauritius, Pakistan, India, Sri Lanka, Nepal, Bangladesh, Bhutan, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, the Philippines, Japan, Melanesia, Micronesia, Australia, New Caledonia, Solomon Islands, Vanuatu. Additionally in western Asia (Saudi Arabia) and America (Guatemala, Mexico, USA).

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Hecht et al. 2013)

Family Xenodermidae

Achalinus emilyae Ziegler, Nguyen, Pham, Nguyen, Pham, Van Schingen, Nguyen & Le, 2019

Distribution: Vietnam, China.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Ziegler et al. 2019).

Family Xenopeltidae

Xenopeltis hainanensis Hu & Zhao, 1972

Distribution: China, Vietnam.

Notes: First record for Bac Giang Province.

Order Testudines

Family Geoemydidae

Geoemyda spengleri (Gmelin, 1789)

Distribution: China, Vietnam, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Pham et al. 2018).

Cuora mouhotii (Gray, 1862)

Distribution: China, Vietnam, Thailand, Myanmar, India, Bhutan, Laos.

Notes: Distribution in Tay Yen Tu Nature Reserve, Bac Giang Province (Pham et al. 2018).

Discussion

At present, a total of 44 species of amphibians belonging to 28 genera (eight families, three orders) and 49 species of reptiles belonging to 37 genera (15 families, two orders) are known from Tay Yen Tu Nature Reserve. It is noted that the taxonomic assignment of some species have been changed. For example, *Xenophrys major* (Boulenger, 1908) was re-identified as *X. maosonensis* (Bourret, 1937) (Mahony et al. 2018), *Amolops ricketti* (Boulenger, 1899) was re-assigned to *A. shihaitaoi* Wang, Li, Du, Hou & Yu, 2022 (Wang et al. 2022), *Hylarana nigrovittata* (Blyth, 1856) to *H. annamitica* (Sheridan & Stuart, 2018) (Sheridan and Stuart 2018), *Odorrana bacboensis* (Bain, Lathrop, Murphy, Orlov & Ho, 2003) to *O. fengkaiensis* Wang, Lau, Yang, Chen, Liu, Pang & Liu, 2015 (Pham et al. 2020), *Rhacophorus rhodopus* Liu & Hu, 1960 to *R. napoensis* Li, Liu, Yu & Sun, 2022(Li et al. 2022 and Nguyen et al. 2024),*Theloderma asperum* (Boulenger, 1886) to *T. albopunctatum* (Liu and Hu, 1962) (Poyarkov et al. 2015), *Rhacophorus maximus* (Rao, Wilkinson & Liu, 2006) to *Zhangixalus pachyproctus* Yu, Hui, Hou, Wu, Rao & Yang, 2019 (Yu et al. 2019), *Ichthyophis bannanicus* Yang, 1984 to *I. kohtaoensis* Taylor, 1960 (Nishikawa et al. 2021), *Lycodon meridionalis* (Bourret, 1935) to *L. flavozonatus* Pope (1928) (Li et al. 2025), *Hypsiscopus plumbea* (Boie, 1827) to *H.*

murphyi Bernstein, Voris, Stuart, Phimmachak, Seateun, Sivongxay, Neang, Karns, Andrews, Osterhage, Phipps & Ruane, 2022 (Bernstein et al. 2022), *Rhabdophis subminiatus* (Schlegel, 1837) to *R. helleri* (Schmidt, 1925) (Liu et al. 2020) and *Achalinus rufescens* Boulenger, 1888 to *A. emilyae* Ziegler, Nguyen, Pham, Nguyen, Pham, Van Schingen, Nguyen & Le, 2019 (Ziegler et al. 2019). Our new findings not only fill knowledge gaps of the herpetofaunal diversity, but also underline the importance of the Tay Yen Tu Nature Reserve in terms of biodiversity conservation in Vietnam.

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